DCI/ICS 82-3888
9 December 1982

MEMORANDUM FOR: Deputy Director of Central Intelligence

FROM: E.A. Burkhalter, Jr.
Director, Intelligence Community Staff

SUBJECT: SIG (Space): Fifth Orbiter Issue

REFERENCE: 2 December 1982, Memo from [redacted] to D/ICS, SIG (Space) 25X1
Meeting, 3 December 1982, [redacted] 25X1

1. The subject issue was discussed at the 3 December 1982 SIG (Space) meeting, but there were widely differing views on the central issue. The chairman, Mr. McFarlane, therefore, proposed that a paper be prepared promptly that reflects accurately the agency views on the issue. The paper would be sent to the President as background for his decisions on the NASA budget. [redacted] 25X1

2. A meeting of the working group was convened on 7 December 1982 to prepare the paper summarizing the positions of each agency (Attachment 1, draft memo to the President plus agency positions). Note that DoD, JCS, and OMB have not yet provided written statements of their positions. [redacted] 25X1

3. The DCI position statement that we provided to the Working Group supports Alternative II--maintenance of an orbiter production capability--and is consistent with the position that we took at the SIG (Space) meeting. It has been informally coordinated with the NRO staff. NASA provided costs and additional descriptive material on Alternative II on 6 December 1982 (see Attachment 2). [redacted] 25X1

4. We had originally anticipated that there would be time for you to submit our position formally and attach the recent CIA estimate on Soviet space programs. However, we understand that the NSC-imposed deadline is noon today (9 December). With your concurrence, we therefore plan to add to our position statement a paragraph summarizing the key judgments in this estimate and provide it to the NSC Staff (see Attachment 3 for revised DCI position statement). [redacted] 25X1

[redacted]

~~SECRET~~

25X1

5. We now understand (based on information received late last night) that NASA and OMB have told the NSC staff that they are willing to accept Alternative II. Because of the increased support for this alternative, Judge Clark is now likely to recommend this alternative to the President. (He previously appeared to support Alternative III, Continue Full Orbiter Production.) (U)

25X1

E.A. Burkhalter, Jr.

Attachments:
1 - Draft memo to the President, "FY 1984 Funding Decision on the Fifth Space Shuttle (Orbiter)
2 - NASA's costs and descriptive material on Alternative II
3 - DCI position statement

This memorandum is unclassified when separated from attachments and caveats physically removed.

SUBJECT: SIG (Space): Fifth Orbiter Issue

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DCI/ICS/OA&E [redacted] 25X1
(9 December 1982)

Attachment 1

Attachment 1

DRAFT

MEMORANDUM FOR THE PRESIDENT

FROM: National Security Advisor

SUBJECT: FY1984 Funding Decision on the Fifth Space Shuttle (Orbiter)

1. The National Space Policy (NSDD-42), which you announced on July 4, clearly emphasizes our commitment to maintaining the nation's leadership in space, particularly in those key areas affecting our national security, scientific, economic, and foreign policy objectives.

2. The issue, as presented to the SIG (Space) was: Should Orbier production capability, in the form of the initiation of a fifth Orbiter, be supported in the FY84 budget?

~~3. The following summarizes the positions of the members of the SIG (Space) on the above issue.~~

3. The individual Agencies comprising the SIG (Space) appear to have differing positions on the central issue. NASA, Commerce, and ACDA firmly believe that commitment to a fifth Orbiteris essential for implementation of your space policy. DOD, DCI and JSC favor maintenance of an Orbiter production capability. OSTP, State and OMB believe that an FY 1984 commitment to a fifth Orbiter is not required in addition, the DCI and OSTP both stress the necessity for ensuring adequate spares in maintaining the four Orbiter fleet.

4. Detailed position papers from the individual Agencies are attached.

Enclosures

December 7, 1982

OSTP POSITION

An FY 1984 commitment to a fifth orbiter would be counterproductive in implementing the President's Space Policy (NSDD-42). Purchase of a fifth orbiter now would produce a large overcapacity of U.S. Government launch services, resulting in a reduction of U.S. space capability and technology, and higher costs of doing both government and commercial business in space. This will reduce the utility of space to the U.S. Government and discourage private sector investment.

The U.S. Government therefore should not commit to a fifth orbiter, but should maintain adequate support for a four-orbiter fleet.

December 7, 1982

AMPLIFICATION OF OSTP POSITION

Deletion of the FY 1984 budget request for funding to produce and deliver a fifth orbiter, in parallel with the provision of adequate support for a four-orbiter fleet, would demonstrate U.S. commitment to space leadership. This leadership position would be based on resource investment in high priority areas yielding maximum economic, scientific, and national security return, rather than adherence to past policies which would result in significant space transportation overcapacity (and additional costs). Furthermore, unless sizeable additional funds are committed, purchase of a fifth orbiter would lock the U.S. government into a launch technology that will be over two decades old for much of the remainder of the century.

While long term (decades) launch service demand predictions are uncertain, reasonable upper and lower bounds have been estimated for the period when the fifth orbiter would become available. These estimates show clearly that a four-orbiter fleet would provide a significant safety margin for national-security-related payloads even in the extremely unlikely event of the irrevocable loss of two orbiters. Indeed, the four-orbiter fleet would assure adequate backup for all expected users--national security, commercial, and foreign--except in the highly unlikely circumstance of both much greater than expected demand and lower than expected orbiter performance.

ACDA Position for NSC Space Paper

ACDA's first concerns are space-based collection assets which will improve our ability to verify arms control agreements. However, we believe that US space leadership and ability to meet international demands for satellite launches are also critical elements in meeting our arms control and foreign policy objectives.

ACDA favors option III in the SIG (Space) issue paper. We do not believe the savings resulting from choosing option I or II are sufficient to justify the risks which the U.S. would have to accept by closing down ELV production and maintaining an STS fleet of only four orbiters. ACDA takes no position on the size of demand for the STS, but believes we should have a large STS reserve capability to supply national security, NASA, foreign, and commercial users. Until it is clearly demonstrated that four orbiters supply adequate reserve capability to perform all of these missions, we should preserve the option of producing a fifth orbiter by 1988 (option III).

Failure to provide adequate STS launch capacity would incur significant arms control and foreign policy costs. Preliminary analysis indicates that a four orbiter fleet may mean that STS will be unable to service foreign and commercial users reliably. NSDD-42 and NSDD-50 both stress the importance of international space cooperation. Relegating much of the non-DOD/NASA launch service to US non-government, commercial enterprises before these enterprises are viable would place in jeopardy the ability of the

US to meet its international obligations. We cannot count on commercial enterprises to implement U.S. foreign policy objectives, e.g., President Reagan's offer to put astronauts of our allies in space. Moreover, the Administration's nonproliferation policy objectives seek to discourage transfer of space launch technologies to countries of proliferation concern (NSDD-70). We do not want US inability to meet the launch needs of foreign users to provide an incentive for third world countries to initiate or increase their own space programs. and thereby develop technologies that could then be diverted to military uses (i.e., the development of nuclear-capable ballistic missiles).

USG abandonment of the commercial and foreign satellite field before American commercial efforts are firmly established may provide the impetus for Soviet Union, France and other foreign government-owned launch services to take the lead in providing launch services to the free world. The U.S. decision in 1974 not to develop adequate uranium enrichment capacity to supply most of the free world's enrichment needs gave Europe's Urenco and Eurodif a new lease on life. Over time this decision has weakened U.S. leverage in dealing with a range of nuclear nonproliferation issues. In addition, the U.S. decision to restrict enrichment capacity has been cited as providing Brazil the incentive to negotiate a major nuclear accord with the FRG to acquire sensitve nuclear technologies, a move from which U.S.-Brazilian bilateral

relations have never recovered. Similarly, if the USG abandons the space launch field except for USG missions, it may dilute our leadership and influence on space issues and our control over the flow of related space and ballistic missile launch technologies.

In the past, space launch cooperation has not only benefitted the U.S. bilaterally, but has generated worldwide goodwill for the U.S. Goodwill for the U.S. space program in particular is important now because of increasing concern about the "militarization" of space. Robust civil scientific and commercial use, both foreign and domestic, will help defuse this concern, but these programs are likely to be early casualties of inadequate STS capacity.

Draft

Honorable Robert C. McFarlane
Deputy Assistant to the President
for National Security Affairs
The White House
Washington, DC 20500

Dear Mr. McFarlane:

For the record, the NASA position taken at the Senior Interagency Group (Space) meeting of December 3 is as follows:

NASA strongly urges starting production of the fifth Orbiter in FY84 to provide, at the earliest opportunity, a reserve Orbiter to assure continued space transportation services for all users in the event of extended downtime or loss within the fleet (Option III).

The fifth Orbiter maintains the Space Shuttle production base over the next several years. This permits support of Orbiter structural maintenance and repairs, and it allows time to gain experience and understand the Space Shuttle inherent operational capabilities and the market demand for its service. Starting the fifth Orbiter, I believe, is consistent with the President's National Space Policy committing the U.S. to World leadership in space transportation with the Space Shuttle as the Nation's primary space launch system.

Anything less than full production go-ahead of a fifth Orbiter increases its cost, delays the on-line availability of reserve capacity, and fails to reassure our commercial and foreign customers of the Government's intention to provide them with responsive and dependable access to space. The STS is now at the threshold of operations. A decision now to truncate the Nation's Orbiter production capability and space transportation capacity at four Orbiters, before uncertainties in capacity and demand are further understood, prematurely forecloses the Nation's future opportunities and initiatives in space.

Sincerely,

James M. Beggs
Administrator

MOG/CRGunn/djc/53247:12-8-82

cc:
A/J. Beggs
A/H. Mark
F/N. Terrell
ADB/P. Culbertson
M/J. Abrahamson
M/I. Gillam
A/Official File ←
AEM/File
MOG/Gunn

STATE DEPARTMENT POSITION ON FIFTH SPACE SHUTTLE ORBITER

The projections of system capability and demand do not support the need for a fifth Shuttle Orbiter at this time. There needs to be a period of confidence building in the space program prior to commiting sizeable funding to additional Orbiter production. The argument for continued production of a fifth Orbiter as an "insurance" for a four orbiter fleet is not adequately substantiated. Moreover, no persuasive evidence has been provided to suggest that there is substantial risk of national security missions displacing civilian and foreign missions if launch schedule problems arise.

T - William Schneider, Jr.

DEPARTMENT OF COMMERCE

POSITION ON FIFTH ORBITER

The production and delivery of the fifth Orbiter is believed to be in the best interest of the Nation and production should start in FY 1984.

8 December 1982
0850 Hours

DCI Position on Fifth Orbiter Issue

The DCI position is that our programs alone do not require a fifth orbiter. From a national perspective, however, we are concerned about our current lack of understanding of the long-term operability of the STS and the potential impact of attrition. Because of this, the need exists to ensure that the U.S. can adequately maintain an operational four orbiter fleet. This requires some reserve capacity to cope with unforseen contingencies and a capability to repair an orbiter after a major incident. Given these needs, we do not believe it is wise to allow the STS orbiter production base to be shut down completely. Alternative 2, by maintaining limited orbiter production capability, will preserve the nation's flexibility to respond to future needs at a modest additional cost compared to Alternative 1. Alternative 2 is our recommended choice.

CONFIDENTIAL

CLARIFICATION OF FIFTH ORBITER OPTION II-- MAINTAIN ORBITER PRODUCTION CAPABILITY

This option maintains the production capacity of selected structural parts and major structural assemblies for an additional 1 to 2 years (depending on the element) beyond the normal close-down of the fourth Orbiter. The selected structural parts are those most likely to be damaged in handling incidents or landing accidents (rudder, elevons, speed brake, landing gear, landing gear doors). These parts will be totally finished and ready for installation on the Orbiter when needed. The major structural assemblies are the wings, aft thrust structure engine compartment, crew module including the nose and cockpit, the mid and aft fuselage sections, payload doors, vertical tail and the Orbit Maneuvering System pods. The wings, engine compartment and mid-fuselage will be delivered in FY86, the other parts and assemblies will be delivered in FY84 and FY85. All the major structural assemblies will be completed only up to the point where they are ready for installation of thermal protection system, plumbing, wire harneses, and major electrical, propulsion and hydraulic components. The cost for Option II (in millions of FY84 dollars) is:

FY84	FY85	FY86	FY87	TOTAL
$90-110	$100-120	$90-115	$60-90	$350-435

The lead time to deliver an Orbiter will be reduced about 1 to 2 years from the 5 years in Option III (exclusive of engines, which would be started under spares).

For comparison, the cost of Option I to close-down the Orbiter production is:

FY84	FY85	FY86	FY87	TOTAL
$65	$85	$40	$40	$230

Close-down includes supplemental spares, documentation, storage of tooling and attendant sustaining engineering. Long-lead major structural assemblies are not included in supplemental spares.

For comparison, the cost of Option III to continue full Orbiter production with delivery of the fifth Orbiter in late 1988 is:

FY84	FY85	FY86	FY87	FY88	FY89	TOTAL
$200	$325	$350	$350	$320	$50	$1,595

Attachment 2

Attachment 3

9 December 1982

DCI Position on Fifth Orbiter Issue

The DCI position is that our programs alone do not require a fifth orbiter. From a national perspective, however, we are concerned about our current lack of understanding of the long-term operability of the STS and the potential impact of attrition. Because of this, the need exists to ensure that the U.S. can adequately maintain an operational four orbiter fleet. This requires some reserve capacity to cope with unforseen contingencies and a capability to repair an orbiter after a major incident. Given these needs, we do not believe it is wise to allow the STS orbiter production base to be shut down completely. Alternative II, by maintaining limited orbiter production capability, will preserve the nation's flexibility to respond to future needs at a modest additional cost compared to Alternative I. Alternative II is our recommended choice.

The DCI also notes that CIA has recently estimated that the Soviets are undertaking a variety of new space programs that will result in a period of rapid expansion.* Soviet space hardware costs are expected to reach the equivalent of $12 Billion a year by 1986--double the current outlays. The increased costs reflect

- Achievement of a permanent Soviet presence in space

- Advances in the technology available for intelligence collection, photoreconnaissance, and military support satellites

- Expansion of navigation, data relay, communications, and weather satellite networks

- Development of a reusable spacecraft, a reusable space transportation system similar to the U.S. shuttle, two new space launch vehicles, and increasing production of the largerst of the current Soviet space launchers

*Outlook for Rapid Expansion of Soviet Space Programs through 1986 (U)," CIA Report SOV 82-10155, October 1982

Attachment 3